THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIII. — THURSDAY, NOVEMBER 25, 1875. — NO. 22.

SHALL WE REVACCINATE?[1]

BY FRANCIS F. BROWN, M. D., OF READING.

IN the JOURNAL for January 14, 1875, are statements by the honored president of the Massachusetts Medical Society in regard to revaccination, which, while not absolutely condemning the practice, are decidedly unfavorable to it. Dr. Cotting would "prefer the risk of variola to the chances of the dangerous inflammations and septic affections frequently developed by revaccination. The *exceptional possibility of really taking vaccine disease a second time* (as any other disease is sometimes so taken) is the only justifiable reason for revaccinating any one. This liability is less than is generally admitted. In the thousands of revaccinations witnessed in others' practice and his own, he had never seen in such revaccinations more than half a dozen vesicles, if as many, which, the history untold, would be mistaken for vesicles of first vaccination."[2]

If I understand rightly, then, Dr. Cotting has seen no more than half a dozen cases of revaccination in his life-time which conferred any protection. From this it appears that, in Dr. Cotting's opinion, in those only who have had the vaccine disease the second time, as shown by the second vaccination running through the regular stages of the first, that is to say, in perhaps one case in a thousand, is the operation of any benefit whatever, while in the other nine hundred and ninety-nine it is worse than useless. "The injury," he says, "thus incurred by revaccination is beyond computation; it frequently impairs health for years or a life-time." Dr. Cotting, however, does not absolutely refuse to revaccinate, but he does not advise it, with this exception: after all the stages of a primary operation are passed, within say six months, he proposes it as a test of the first. If the probabilities of benefit are so slight as he states, and the dangers so great, we may properly inquire whether this test, even, is justifiable. Is a revaccination at the end of six months attended with any less danger than it is twenty years afterwards?

[1] Read before the East Middlesex District Medical Society.

[2] This accords with my own observation.

The charges here made against this practice are two, namely, —

(1.) That it is dangerous.

(2.) That it is with rare exceptions useless.

I. That dangers do occasionally attend this operation is well known. Dr. Cotting writes that "the 'accidental revaccination' was a serious matter to me. My arm has not yet recovered from the effects of it. A moderate varioloid would have been less damaging." Experience shows that "severe constitutional symptoms are out of all proportion more frequent in revaccination than in primary vaccination." Erysipelas sometimes follows; rarely, pyæmia and death. A fatal case was reported in the JOURNAL of May 29, 1873. The virus was from the patient's own child, a healthy one, but the patient's wife thought that the crust, which was used, was a secondary one, the original having been rubbed off. Whether this vaccination was performed by a physician is not stated. Dr. Ayer[1] had had a similar case, recovering after four weeks. But primary vaccination is not always free from similar unfortunate results. In the same connection Dr. Fifield reported a case of a child who died in two weeks from the effects of a primary vaccination. In the JOURNAL of January 23, 1873, are reported two fatal cases of vaccination; but whether primary or secondary is not stated.[2]

That revaccination frequently impairs health for years or a life-time is a rather startling assertion. It is a matter of regret that so sweeping a charge as this, as well as others in this report, is not sustained by some proof. Inquiry among the members of this society fails to discover anything to substantiate it. A not very extended examination of the literature of the subject leads me to the conclusion that the experience of the profession generally is like our own. If this is a delusion of ours it ought to be dispelled. We want the facts.

Making due allowance for all the possible dangers of the practice, I think it can be shown that they are not a hundredth part as great as those arising from its neglect. I doubt whether a thorough search can find a dozen fatalities due to revaccination during the last twenty years. On the other hand, the deaths from small-pox of those who trusted to a single vaccination amounted in Boston alone, during the epidemic of 1872–73, to several hundred. Moreover, the facts go to show that most of these deaths would have been prevented by timely revaccination.

II. Is revaccination, with infrequent exceptions, useless; that is, does it confer additional protection only on something like one in a thousand? If that is the case, statistics ought to show that the frequency and fatality of varioloid is nearly as great among the revaccinated as among those vaccinated only once. The only figures that I have seen that at all seem to support this view are those in the report of Dr. Webb on the late epidemic of small-pox in Boston, which give the percentage of deaths in the hospitals of the vaccinated once as 19.55 and of the revaccinated as 17.85. There were six hundred and ninety cases of the former, however, and of the latter eighty-four, less than one eighth as many. This would at first sight seem to show that the mortality was nearly equal in the two cases *among those attacked*, but that the revaccinated had much less *liability* to the disease. But inferences from these figures are worthless, for two reasons: (1) We do not know the numbers in the two classes exposed to the contagion; (2) the figures themselves are unreliable. Dr. Webb tells me that the only information as to the revaccinations of these patients was derived from the statements of the patients themselves; so that what sort of a revaccination these eighty-four got, how many of the operations were successful, how many were performed after exposure to contagion of small-pox, and so on, we know nothing about; we know only that these patients were said to be revaccinated. Moreover, I am informed by Dr. Webb that among persons known to be successfully revaccinated small-pox was extremely rare.

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[1] Loc. cit.

[2] I have lately learned that they were *revaccinations*.

All other facts and statistics which I have seen support the view in which nearly all the highest authorities are agreed, namely, "that the liability to a subsequent attack of small-pox is almost incalculably diminished by revaccination." [1] Dr. Marson,[2] of London, who has had during the last thirty years fifteen thousand cases under his personal care, a majority of which, by the way, were post-vaccinial, states that "but very few patients have been admitted with small-pox into the small-pox hospital who stated that they had been revaccinated with effect; and that those few have had small-pox in a very mild form." . . . "For just upon thirty years we have revaccinated all the nurses and servants, who had not had small-pox, on their coming to live at the small-pox hospital, and not one of them has contracted small-pox during his stay there." . . . "At a time when a large number of work people were employed for several months about the hospital, most of whom consented to be revaccinated, two only were attacked by small-pox, and these two were amongst the few who were not revaccinated."

In Würtemberg, in five years, there occurred among fourteen thousand three hundred and eighty-four revaccinated soldiers only one instance of varioloid, and only one among thirty thousand revaccinated civilians; while in the same country, during the same years, there were sixteen hundred and seventy-four cases of modified and unmodified small-pox; so that the escape of these forty-five thousand from contagion was not from want of exposure.

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[1] Dr. West.

[2] Reynolds, System of Medicine, i. 209.

In the Prussian army, since the introduction of systematic revaccination, the annual deaths from small-pox, which at one time were one hundred and four, have not averaged more than two; and on analysis of the forty fatal cases that occurred in twenty years it appeared that only four were in persons who were said to have been successfully revaccinated.[1]

Since 1843[2] "revaccination has been compulsory in the Bavarian army; since that date absolutely no cases of variola have occurred; while of cases of varioloid which from time to time appear, though in small numbers, there has not within this period occurred a single death."

"For twenty-one years[3] revaccination has been general in the Danish army, and for thirteen years in the Danish navy, and these two populations have almost entirely escaped contagion during several epidemics of small-pox. The practice of Sweden has been similar, and its results satisfactory."

In the report of the Board of Health of Philadelphia for 1872,[4] Dr. William H. Welsh, physician in charge of the Municipal Hospital, says, "Among twenty-three hundred and seventy-seven cases of small-pox admitted during the epidemic" (sixteen hundred and twenty-nine of which were post-vaccinial), "only thirty-six are said to have been revaccinated, and of these four died. But by subjecting these cases to a careful analysis, we find as follows: seventeen were revaccinated at a distant period, some as far back as thirty-one years; five had not been revaccinated until after exposure; seven were said to have been successfully revaccinated but were unable to exhibit any cicatrices as the result; sixteen bore upon their arms very poor and uncharacteristic scars, some of which were scarcely visible; five presented fair cicatrices, and only three were able to show good cicatrices. Of the four cases which died, two occurred among those without cicatrices, one among those revaccinated after exposure, and one among those showing poor and uncharacteristic scars." All the cases which bore on their arms unmistakable evidence of successful revaccination suffered from the mildest possible form of the disease. Indeed, in three of the thirty-six it was doubtful whether the eruption was that of varioloid at all. (Notice that after taking out those revaccinated at a remote period and those revaccinated after exposure, we have left only fourteen cases after revaccination against sixteen hundred and twenty-nine cases after a single vaccination.) "Not a single person connected with the hospital who had been revaccinated contracted the disease; while on the other hand some three or four of the nurses who had been affected by small-pox previously took the disease the second time."

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[1] Simon. Papers on Vaccination, pages 35 and 36.

[2] Ditto (published in 1857), page 170.

[3] Ditto, page 36.

[4] Page 80.

Dr. Edward H. Janes[1] is authority for the following statements: "We shall find nothing more fallacious than the attempt to establish an invariable rule that vaccination will protect the system from variolous poison during a certain number of years." From March 20, 1871, to March 20, 1872, there were in New York city three hundred and thirty-seven cases of varioloid in children under five years of age, one hundred and thirteen of whom showed marks of vaccination. "Since this practice (revaccination) was adopted no case of small-pox has occurred among those who were revaccinated immediately after exposure to the contagion." And positive protection, he says, was afforded to all by the operation.

The following statements are from Dr. E. C. Seaton's last annual report to the local government board:[2] "The observations which were made during the recent epidemic afforded remarkable evidence of the value of revaccination, not merely in controlling the mortality from small-pox, but usually in preventing altogether the occurrence of the disease." "In every hospital report which has reached me, it is specially stated that not a single one of those officials (attendants in the hospitals in the Metropolitan Asylum district, amounting at one time to more than three hundred) who had been revaccinated before coming to take duty at the hospital contracted small-pox." On the other hand, a few cases of the disease occurred in nurses or servants who were not revaccinated; one case was that of a nurse who had had small-pox previously, and one very modified case occurred in a nurse whose revaccination was not performed till after exposure to the infection. "The cases of small-pox which were admitted for treatment in the several hospitals in persons who had been successfully revaccinated were very few and very slight. In the hospitals of the Metropolitan Asylum Board, in which upwards of fourteen thousand eight hundred cases of small-pox were treated, there were but four cases in which there was good evidence of revaccination having been performed with effect, and those were all light cases. In Liverpool, says Dr. Trench, revaccination was found a constant and perfect protection against the small-pox. In the Newcastle-on-Tyne small-pox hospital, in which seven hundred and seventy-eight cases were treated, there were two in which revaccination was alleged to have been successfully performed (but without mention whether there were marks of such revaccination or not), one of them ten years and the other four years before the attack of small-pox; both recovered. Into the same hospital eight patients were admitted who stated that they had had small-pox before; five of these were distinctly marked by it; one of the three not marked died, the remaining seven recovered.

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[1] Public Health Reports, 1873, i., pages 176, 177, and 178.

[2] Public Health: a Journal of Sanitary Science and Progress. London, October 2, 1875.

"In the Leeds Hospital there were four cases in which previous revaccination was alleged; but in none of them was the evidence of revaccination conclusive. One of them, in which the revaccination was said to have been done at seven years of age, was fatal; the other three cases were mild. There were three (fatal) cases of small-pox in persons believed to have had small-pox previously, but the evidence of the former small-pox is not stated. Similar infrequency and mildness of small-pox after revaccination was noted in the hospitals abroad. In the municipal small-pox hospital at Berlin, in which fifteen hundred and twenty-nine cases were treated in persons who had been vaccinated, only nineteen of these were in persons (all above thirty years old) who had been successfully revaccinated; they were all of them cases of varioloid or of variolous fever without eruption, and none of them died. In the same hospital there were seven cases (three of them fatal) in persons who had previously had small pox. In the Baracken Lazareth, used also as small-pox hospitals, in the same city, in which eighteen hundred and five cases were treated in persons who had been vaccinated, seven only were in persons who had been successfully revaccinated; of these, six had a mild attack, and one (a woman between sixty and seventy years old) had the hæmorrhagic form and died. In the hospital at Leipsic, out of fifteen hundred and four vaccinated patients, there were thirteen who had been successfully revaccinated in early life, all of whom recovered; in the same hospital there were twenty-two cases in persons who had had small-pox, and of these, six died. In the hospital at Hamburg the cases in persons who had been revaccinated were more numerous, amounting to fifty-nine out of a total of twenty-two hundred and sixty-seven vaccinated patients; and there were three deaths."

These facts and figures all tell the same story, and I know of none telling a different one. In view of them, what possible escape can there be from the conclusion that revaccination does, with rare exceptions, shield from small-pox the large numbers of those to whom a single (and perhaps a remote) vaccination is not a sufficient protection. Take a thousand adults vaccinated in infancy only; what is their condition on exposure to this disease? An unknown number of them, estimated by different writers at from one tenth to one half, would take the infection, some in a mild, others in a severe form; and from five to twenty per cent. of those attacked would die. Revaccinate that thousand, how many would die from the effects of the operation? Is it likely that one would? How many would be sick enough to be confined to bed? How many would have their health impaired for years or a life-time? I appeal to the experience of the profession on this point. It is our duty to know the worst of any of our procedures, however justifiable. Many would have sore arms, no doubt, but they would not jeopardize their neighbors, at any rate. On the other hand, is it likely that even two out of that revaccinated thousand if exposed would take varioloid?

It is not contended that this practice will protect all; neither will variola. Thirty-eight cases of recurrent small-pox were witnessed by Dr. Webb in Boston during the late epidemic. Three had the disease twice within six months. One, a child of four, vaccinated in infancy, had the disease in March, recovered, only to die of it in October. Such cases show that there are persons so susceptible to the poison of variola that no number of vaccinations or previous attacks will protect them, especially during a violent epidemic.

Neither does a successful revaccination, "a good arm," *prove* that the person was susceptible to the contagion of variola. "The utility and necessity of revaccination stand not upon any speculative reasoning from the local effects it produces, but upon the broad grounds of observation and experience."[1]

Should we revaccinate often? For one I doubt the necessity of repeating the process every seven or any other fixed number of years. Whether vaccination in infancy, repeated at short intervals till no local effect is produced, gives any more permanent protection than a single vaccination, I do not know; does any one? Whether the effect of non-humanized kine virus is more lasting than that of the long humanized will require years of systematic observation to prove. At present I think two points are established: (1) a recently vaccinated or revaccinated person has an extremely small liability to small-pox; (2) vaccination performed in infancy diminishes in protective power as a person advances in life, and especially after the age of puberty.

In Philadelphia, during the late epidemic, one hundred and eleven post-vaccinial cases were admitted to the small-pox hospital under fourteen years of age, and their mortality was 11.71 per cent.; fifteen hundred and eighteen post-vaccinial cases were admitted over fourteen years of age, and their mortality was 17.32 per cent. This renewed susceptibility to small-pox increases up to an undetermined period, perhaps to about middle life.[2]

If I were to lay down rules, I should say, —

(1.) Vaccinate in infancy.

(2.) Revaccinate at least once in after-life, and if but once, preferably not far from the age of puberty.

(3.) Revaccinate always on exposure to small-pox, unless it has been done recently with success; also, when danger of exposure is great, as when the disease is in the same tenement.

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[1] Seaton.

[2] Eighteen is, according to Mr. Marson, the age at which post-vaccinial small-pox begins to be chiefly noticeable.

(4.) In case of persons who mingle much with all sorts and conditions of men, if a successful trial has not been made within eight or ten years, I should be in favor of revaccination, and when an epidemic of small-pox prevails should certainly advise it.

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RECENT PROGERSS IN OTOLOGY.[1]

BY J. ORNE GREEN, M. D.

The Examination of the Ear by Polarized Light.— The examination of the eye by means of polarized light was introduced by Coccius years ago, but was given up as it was found that the tissues of the eye were so transparent as to render any such aid to their examination unnecessary. The tissues of the ear, however, have not such perfect transparency, and Hagen and Stimmel [2] by a slight modification of Coccius's apparatus have been investigating the appearances of the ear under polarized light, and claim that by this means they have a valuable aid to the diagnosis of certain anatomical changes in the middle ear and membrana tympani. They say that under polarized light the delicate glistening usually seen over the whole membrana tympani entirely disappears; the light-reflex on the lower anterior segment is changed so as to appear of a bluish-white color, and any other reflexes, either on the drum-membrane or from fluid in the meatus, are absorbed. Certain parts of the drum-membrane are found also to disappear entirely, while other parts are rendered much more transparent; the posterior upper segment, especially, disappears under polarized light, so that the long process of the incus, parts of the stapes, and the outline of the promontory are distinctly seen. This disappearance of parts of the drum-membrane was found also to occur, even if the membrane was considerably thickened, and Hagen claims in this way to have been able to see abnormal adhesive bands and pseudo-ligaments within the tympanic cavity.

Marked thickening of the drum-membrane and calcareous deposits do not disappear, but come out more prominently under polarized light; the same is true of ecchymoses in the membrane, but their exact position, whether on the surface or within the tissue, can be easily determined. These are the chief results of these investigations, and of course a long series of investigations is necessary to determine the appearances of all parts of the ear, both in health and in disease, under polarized light. The authors express the hope that the power which polarized light possesses of rendering certain tissues transparent will be found useful not only in the study of the physiology of the ear, especially of the movements of the separate ossicles, but also in the treatment of diseases of the middle ear. The apparatus as now constructed, however, has not the free movements of all its parts and the ease of manipulation which are desirable in an instrument intended for daily use.

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[1] Concluded from page 592.

[2] Berliner klinische Wochenschrift, No. 48, 1874.

The Action of Quinine upon the Ear. — The direct effect of quinine upon the ear is so well known that it seems wonderful that we have no more accurate knowledge of how this effect is produced. It has been claimed in Germany that the effect of quinine was to cause contraction of the blood-vessels and consequently anæmia; this view was denied, however, by Von Graefe, as contrary to his clinical experience; and it has been rejected by many others also, especially by those who have seen much of aural disease, as wholly inadequate to explain the phenomena which they observe in practice. That quinine can directly aggravate an existing inflammation of the tympanum has been shown by Roosa[1] and others, and that this effect could be produced by anæmia is wholly inconsistent with our knowledge of the process of inflammation; that quinine can also produce deafness from its specific action upon the ear, whatever that may be, is also now quite generally acknowledged. Roosa in a paper on the diseases of the internal ear[2] asserts that the effects of quinine upon the ear were due to congestion; and Hammond[3] takes the same view and publishes the result of an experiment on himself. These experiments are continued further by Roosa,[4] and although they are but few in number they confirm so thoroughly the theory of congestion and not that of anæmia as the effect of quinine on the ear that they are given in full. The subjects of the experiments were medical men in good health, the observer was Dr. Roosa.

Dr. H., vision normal, $\frac{20}{20}$; refraction emmetropic; pulse 90; ocular conjunctivæ white, decidedly free from hyperæmia; palpebræ congested at outer and inner canthus. No tinnitus aurium; membranæ tympanorum entirely free from evidence of blood-vessels. At 8.30 P. M. Dr. H. took ten grains of sulphate of quinine; at 9 P. M. the ocular conjunctivæ were congested at the outer and inner canthus, and the palpebral conjunctivæ were markedly congested over the whole surface; there was no change in appearance of the drum-heads.

At 10 P. M. the head feels full; left ear rings; auricles burn; face is decidedly flushed; auricles are red, especially the lobe of the right, where there is a localized congestion so marked as to resemble an ecchymosis. There is now a vessel seen along each malleus. The optic papillæ are pinkish from apparent enlargement of the lateral vessels. At 10.30 P. M. the right drum-head is very much injected along the handle of the malleus and its upper margin ; the left one is less red, but still shows vascular injection. Both papillæ are pink, the left more so than the right ; face flushed, eyes suffused, ocular conjunctivæ decidedly congested, slight headache, tinnitus in both ears. At 11 P. M. the redness of the auricles is diminishing, especially the circumscribed spot on the lobe of the left one ; the face is still flushed ; tinnitus continues ; no headache ; some exhilaration ; drum-heads still injected along the malleus. Vision normal.

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[1] Diseases of the Ear.

[2] Transactions of the American Otological Society, 1875.

[3] The Psychological and Medico-Legal Journal, October, 1874.

[4] American Journal of the Medical Sciences, October, 1874.

Dr. E., aged twenty-four ; hearing distance normal, $\frac{40}{40}$, on each side ; refraction emmetropic. No tinnitus aurium ; the drum-heads are free from vessels and normal in appearance ; optic papillæ normal. At 11.05 A. M. Dr. E. takes ten grains of sulphate of quinine ; at 11.35 there is a very fine vessel along the right malleus ; no change in the left. At 12.30 there is some redness at the periphery of the left drum-head, but the vessel on the right has disappeared. At 1 P. M. the redness has disappeared on both sides. No change is observed in the optic papillæ, and there is no tinnitus and no sense of exhilaration.

Dr. C., aged twenty-five ; refraction myopic $\frac{1}{42}$; $V = \frac{20}{20}$; drum-heads absolutely free from congestion ; no vessel on or along the malleus ; optic papillæ both flushed. At 10.16 A. M. takes fifteen grains of sulphate of quinine. At 11 A. M. a vessel is seen along the malleus of the right membrana tympani, but the membrane itself presents no change ; there is slight vertigo. At 11.30 A. M. there is a sense of heat and tingling over the whole surface of the body, and a sense of fullness in the ears and head. The hands are tremulous, and the subject gives general evidence of nervous excitement. The handles of both mallei are injected ; there are sounds of a high note in the ears, and the ears feel warm. At 12.30 P. M. the injection of the mallei is disappearing, as are the vertigo and tremor.

From these experiments it will be seen that the administration of quinine was followed in each case by a decided congestion of the blood-vessels of the malleus within an hour ; in two of the cases there was very marked tinnitus aurium accompanying this congestion, while in the other case, that in which the congestion was the least, there was no tinnitus. The blood-vessels which were found congested in these cases are known to be intimately connected with the vascular system of the middle ear, and the vessels of the middle ear are in direct connection with the circulation of the labyrinth, so that a congestion of any one of these systems is sure to be communicated to the other systems ; and inasmuch as the amount of tinnitus is proportionate to the degree of congestion observed in the malleus, the conclusion seems reasonable that the specific effect of quinine upon the ear is the result of congestion and not of anæmia.

In practice the result of these experiments is of great importance in showing the risk, appreciated for a long time by a few but not generally known or recognized, of giving quinine either as a tonic or for any other purpose during an inflammation of any part of the ear.

Iodoform in Chronic Suppuration of the Middle Ear. — Dr. Rankin[1] reports good results from the insufflation of iodoform in powder in some cases of chronic suppurative inflammation of the middle ear which had obstinately resisted other methods of treatment; and Dr. Mathewson[2] reports that very satisfactory results have been obtained by this remedy by himself in these cases. The ear should be first thoroughly cleansed and dried, and then the iodoform be applied in powder to the inflamed mucous membrane every day or every other day.

Inflammation of the Mastoid Cells without Affection of the Tympanum. — An inflammation of the mastoid cells, not secondary to an inflammation of the tympanum, is of such rare occurrence that the possibility of such a thing has been denied by some authors and the rarity of its occurrence acknowledged by all. Such a case is described by Dr. Pierce[3] in a man aged twenty-two, who after suffering for two months with colds in the head and slight pains in both ears was attacked with severe pain in the right mastoid and down the neck. The mastoid became red, swollen, and œdematous, but examination showed the membrana tympani, although somewhat thickened, entirely free from any congestion. An incision of the mastoid tissues and poulticing gradually relieved the existing inflammation there, but at no time were there any symptoms or appearances of inflammation in the tympanum proper.

Subcutaneous Injection of Strychnia for Nervous Deafness. — Stimulated by the good results claimed by Professor Nagel, of Tübingen, as the result of subcutaneous injections of strychnine in amaurosis and amblyopia, Hagen[4] has tried the same treatment in case of nervous deafness. After the treatment of a considerable number of such cases, he claims to have obtained good results from the injection over the mastoid process of a one per cent. solution of nitrate of strychnia; the injections were given twice a week. The minutiæ of the cases are not given, but are promised later; he merely states that the good results obtained were undeniable.

[1] New York Medical Journal, May, 1875.

[2] Transactions of the American Otological Society, 1875.

[3] The Lancet, January 2, 1875.

[4] Centralblatt für die medicinischen Wissenschaften, No. 36, 1875.

HAYDEN ON DISEASES OF THE HEART.[1]

THIS treatise is an exhaustive compilation of theories and facts which have been propounded or established in relation to the heart, especially since the time of Laennec, supplemented throughout with observations and opinions of the author, modestly expressed. It shows very extensive reading and familiarity with English and French medical literature. The book is too large, and it would have been well shortened by condensing the experiments and opinions of others, and by leaving out the details (except tables and summaries) of the author's own cases, which occupy two or three hundred pages.

One hundred and fifty-five pages are devoted to the anatomy and physiology of the heart, and to the phenomena of the heart's action in relation to its modification by disease. Then follow about one hundred and fifty pages on the physical signs of disease of the heart. Dr. Hayden holds that the primary and essential though remote cause of cardiac murmurs is friction of the blood-current against the walls or passages where the murmurs arise, and does not believe that valvular murmurs can arise from modified tension-property of the valves, irrespective of afflux or reflux blood-currents, as has been thought by Da Costa, Oppolzer, Bamberger, and others.

Dr. Hayden classifies murmurs as presystolic, systolic, post-systolic, prediastolic, diastolic, and post-diastolic. He dwells upon the usually presystolic time of the murmur of mitral obstruction, and gives credit to Dr. Austin Flint, after M. Fauvel, for correctly appreciating this.

On the subject of apex diastolic murmur, the author leaves his experience rather doubtful. On page 191 he says, "A veritable apex diastolic murmur is undoubtedly 'rare,' as Hope describes it. I have met with only two examples of such murmur, and Dr. Stokes informs me he has met with another." In a note at the foot of page 206 he says, "I have not met with an example of diastolic apex murmur in the strict sense, but Dr. Stokes has mentioned to me a case," etc. On page 693 is reported a case which bears among other headings this one: "diastolic murmur and quasi presystolic murmur at the apex." In this case there was also a loud double bellows murmur at the base. "Both murmurs (aortic) were transmitted some distance towards the apex, but were nearly lost at the seat of the apex beat;" at the apex "the first sound was prolonged and associated with a murmur of quasi presystolic rhythm. In this situation, likewise, a loud bellows murmur took the place of the second sound, and was distinctly audible at the left axilla." It was found, on autopsy, that "the mitral orifice was somewhat less than the ordinary size, admitting only the tips of two fingers. The mitral valves were competent, and in all respects normal save that at the attached margin and on the auricular aspect there was a circlet of warty vegetations of about the size of a duck-shot; they were soft, partially transparent, and smooth on the surface. The aortic valves were slightly thickened and shriveled at the free edge; they admitted of axial reflux." Dr. Hayden felt sure that there were two diastolic murmurs, and not one transmitted, on account of there being two points of maximum intensity of diastolic murmur, that is, one at the base and another at the apex. In commenting on this case he says, "It is, indeed, the only genuine example of the kind which has come under my notice;" but, still further on, after mentioning the absence of a second sound at the apex in the case, and hence the difficulty of exactly fixing the time, he says, "According to the view now stated, the murmur was in reality not diastolic but post-diastolic in rhythm, having been misinterpreted owing to the absence of the ordinary chronometric standard, namely, a second sound."

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[1] *The Diseases of the Heart and of the Aorta.* By THOMAS HAYDEN. In Two Parts. Philadelphia: Lindsay and Blakiston. 1875.

Of post-systolic murmur the author has noted five examples. In three of these the murmur was confined to the area of the apex, and in two of this number was non-organic in cause, traceable in one to excessive tobacco smoking, and in the other, a female, to nervousness, and associated with nervous palpitation. In the third case in this category there was organic disease of the mitral valve. In one case only was the post-systolic murmur basic and due to trivial alteration of the aortic valve (shown post mortem).

Dr. Hayden has met with only one example of prediastolic murmur; it occurred at the base, and disease of the aortic valves was found post mortem.

Of post-diastolic murmur the author has observed eleven examples; four were located at the apex, and seven at the base. In only two was there an autopsy; in both of these the murmur was basic, and organic disease of the aortic valves was found.

Of tricuspid constriction three cases are given. There were two centres of pre-systolic murmur (mitral constriction being also present); in two of these cases post-mortem examination showed the constriction.

Most auscultators will be surprised, we think, to read that Dr. Hayden "has not met with a single example of diastolic aortic murmur which was audible even faintly in the carotid or subclavian arteries."[1] However, the reader will find further on that the author has met with at least one instance of it, for in the record of case No. 25[2] he says, "Of these the diastolic murmur was relatively louder; it was transmitted through the ascending aorta, but with diminished intensity, and (for a diastolic murmur a very unusual circumstance) likewise into the great arteries of the neck."

In discussing hypertrophy the author does not seem to present quite clearly and strongly enough the fact of hypertrophy of the right ventricle in case of mitral lesions. And in discussing the accentuation of the pulmonic second sound in connection with mitral lesions[3] he says, "I am safe in asserting that not one half of the cases of indubitable disease of the mitral valve which have come under my notice have presented" it; but in another place[4] it is stated that "the two former [presystolic and systolic murmurs] are usually, but by no means invariably, associated with accentuated second sound in the pulmonary artery."

Cheyne-Stokes respiration existed in twenty-nine out of sixty-four cases of fatty degeneration of the heart, but Dr. Hayden regards the fatty degeneration as only accessory in the production of this symptom, the essential condition being, in his opinion, dilatation and loss of elasticity in the aorta, "with which, however, fatty change of the heart is almost invariably associated." In another case he says, "Judging from my personal experience, such as it has been, I feel bound to regard it [Cheyne-Stokes respiration] as pathognomonic of the conditions of the aorta just mentioned."

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[1] Page 237.

[2] Page 539.

[3] Page 136.

[4] Page 232.

We think Dr. Gee will be rather surprised to find the opinion (from which Dr. Hayden dissents) that in case of serous effusion in pericarditis the liquid accumulation takes place in the first instance at the base of the heart, and around the roots of the great vessels, attributed to him alone, inasmuch as he (Dr. Gee) shares his faith with Skoda, Oppolzer, Bamberger, Niemeyer, and others.

Dr. Hayden has been unable to use the binaural stethoscope "on account of the difficulty of keeping it steadily fixed in the ears, and the rustling noise which it consequently produced, together with the irritation to the ears thence arising." We wish that he might try one of American manufacture.

On the whole the book strikes us favorably, but it may be much improved by condensation in another edition. Some inconsistencies of statement, like those indicated above, may be due to the length of time over which the preparation of the volume extended (nine years). The paper and type are excellent.

RUTHERFORD ON PRACTICAL HISTOLOGY.[1]

THIS unpretending little book by the new professor of the institutes of medicine at Edinburgh will be a great acquisition to students of histology. It is a clear and concise guide, telling the beginners what to look at, where to get it, how to prepare it, and how to study it. In examining a microscopic object the student is told to note the shape, size, border, upper and under surface, color, transparency, contents, and the effect of reagents. He is also urged to draw what he sees. We are glad to read a work on this subject in which we are spared a tedious description of various microscopes and two or three chapters on optics. Dr. Rutherford's ideal instrument is simplicity itself, and the few instructions he gives for its use comprise all that is essential. We are glad to see that in England the school of microscopists who are searching for facts is taking the place of those who work merely for demonstration. As a crowning merit the world "diatome" is not to be found in the book.

In some minor points we must be permitted to differ from the author. We think that he attaches too much importance to the camera lucida, as the skillful draughtsman can make a good drawing and the poor one can express an idea very well, especially if he practices, without it. We are surprised to find Valentine's double-bladed knife recommended, as we thought that its uselessness was generally acknowledged. Dr. Rutherford writes enthusiastically of the advantages of his freezing microtome, which certainly would appear to be very valuable. The list of objects to be studied is long and very judiciously chosen, with the exception perhaps of the retina and internal ear, which we

[1] *Outlines of Practical Histology.* By WILLIAM RUTHERFORD, M. D., F. R. S. Philadelphia: Lindsay and Blakiston. 1875.

think the student will find difficult. A defect in this part of the work is that the author often quite arbitrarily designates the animal from which a tissue is to be taken; thus for the study of a transverse section of a nerve he recommends the sciatic nerve of a cat, and so may put to inconvenience the student who does not yet know that many other animals would do as well. Among the methods of preparation is one for skin, by Dr. William Stirling, which we believe is quite new:[1] "Mix 1 c. c. pure hydrochloric acid with 500 c. c. water at 38°C. (100° F.), and add 1 gramme pepsine. After keeping the mixture at 38° C. for three hours, shake it thoroughly. Stretch a piece of skin of man or dog, as fresh as possible, over the mouth of a dialyzing jar, and tie it firmly round the jar to keep it stretched. Digest the skin in the above fluid at 38°C. for a period varying from two to eight hours, according to the size and age of the skin. Young skin digests more quickly than that which is old. It is advantageous to use only about 100 c. c. of the digestive fluid at one time, and to change the fluid every second hour if the piece of skin be large, in order to remove the peptones, and thereby facilitate the digestive process. After partial digestion place the skin in water for twenty-four hours. In this it becomes swollen and transparent. It can then be hardened in the ordinary fluids and stained with logwood or carmine. By the above process the white fibrous tissue wells up and becomes extremely transparent, thus permitting of a clear view of the other tissues." Many other methods little known to others than experts are clearly given. Even the experienced histologist may derive some valuable hints from this book as to the method of conducting a course, but to the student, for whom it is written, it will be of the greatest service.

T. D., Jr.

TWO THOUSAND YEARS AFTER.[2]

A new literary and philosophic *tour de force* by this graceful writer is pretty sure to command attention. The object of the essay is to show the fallacy of materialists in holding "that man has no different part or state assigned him than belongs to matter and force at large." The argument is carried on in a conversation between Socrates and some of his disciples, two thousand years after their demise. It is a reproduction of the old Greek style of instruction, which, it appears, consists on the part of the philosopher in leading the doubting pupil on by a series of difficult questions to a point where the weakness of his position is evident. Cebes, who serves as a lay figure, receives terrible punishment, but comes up smiling till he gets his final quietus. Though this style is not to our mind the most attractive, it is made interesting by the skill with which it is handled.

[1] Page 38.

[2] *Two Thousand Years after; or, Thoughts in a Grave-Yard.* By John Darby, author of Thinkers and Thinking, etc. Philadelphia: Claxton, Remsen, and Haffelfinger. 1876.

LECTURES ON DISEASES OF THE NERVOUS SYSTEM.[1]

So much valuable work has been done within the past few years towards clearing up the pathology of the nervous system, that each new writer has an advantage over his immediate predecessors in being able to bring up new evidence on one side or the other of the important discussions of the day. Realizing this fact we took up the book now before us with a feeling of pleasure, thinking that we should find in it, we will not say reports of original scientific investigations, but a careful and analytic statement of the latest results obtained by others. We must, however, confess to a feeling of disappointment as we lay it down.[2] It is a volume of lectures which were no doubt interesting and valuable to the students who heard them, but which as a contribution to the literature of the subject of which they treat have no *raison d'être.* The laborious scientific investigations through which alone our knowledge of the pathology of the nervous system can make real advance are but meagrely quoted, and instead of them we find a collection of statements, mainly clinical, often interesting, but too often inaccurate, insufficient, and dogmatic. We do not complain that the lectures when delivered to medical students did not contain detailed accounts of microscopic and physiological observations, but that in these days, when exact science is beginning to assert itself in medicine, and when our shelves are covered with books that we have not time to read, it should have been thought worth while to publish another fat volume of elementary lectures.

The author himself says of the book in his preface that he "cannot claim for it originality either as to its facts or as to its theories," and as it certainly does not contain anything like a complete survey of the scientific field, and as it is not a concise handbook, it is plain that it adds to the world's solution of science in literature a disproportionately large amount of menstruum.

In support of the charge that the book contains many inexact and insufficient statements, we will mention a few of them. At page 257 the author explains the fact that the extensor muscles of the fore-arm are preëminently affected in lead-poisoning, by assuming that on account of their (supposed) relatively greater functional activity in the case of painters, they would receive a more abundant blood-supply than the rest of the muscles of the arm, and therefore a larger share of the poison. No proof is given that either of these statements is correct; nor does that explanation cover the cases of lead-poisoning in persons not painters. Neither is it mentioned that Hitzig, in 1868, showed some reasons for thinking that this disproportionate affection of the extensors is due to *insufficiency* of the venous circulation in those muscles, or that Bärwinkel maintained that it is due to insufficiency of the arterial circulation, or that others have brought forward strong evidence against both theories.

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[1] *Lectures on Diseases of the Nervous System.* By JEROME BAUDUY, M. D., Professor of Psychological Medicine and Diseases of the Nervous System in the Missouri Medical College. Reported by V. BIART, M. D., revised and edited by the author. Philadelphia: J. B. Lippincott & Co. 1876.

[2] It is significant that among the twenty writers to whom the author expresses his grateful acknowledgment as having quoted freely from their works, the only German mentioned is Niemeyer.

In speaking of progressive muscular atrophy he says, "In France, atrophy of the anterior gray cornua of the spinal cord is considered the common and constant anatomical characteristic; an hypothesis which I need hardly say is more than doubtful." We do not ourselves affirm that this hypothesis is absolutely proved, but it is just now certainly a favorite theory with a large proportion of neuro-pathologists the world over.

In the chapter on the diagnosis of cerebral tumors, not a word is said of the frequency with which optic neuritis accompanies them.

If the book could have been cut down to include a few only of its present chapters, especially those on cerebral meningitis, it would have been much more useful and interesting than it is as it stands.

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PROCEEDINGS OF THE MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.

C. E. VAUGHAN, M. D., SECRETARY.

THE semi-annual meeting was held at North Cambridge, October 13, 1875, DR. G. J. TOWNSEND presiding.

Exophthalmic Goitre. — DR. WALCOTT read notes of a case of Basedow's disease, or exophthalmic cachexia, seen four years since. The patient was a girl of thirteen, and tall for the age. She was nervous and restless, dreaming at night. The skin was sensitive. Pulse 100 to 110. The pupils were dilated and brilliant, the sight unaffected. The thyroid body was enlarged, and considerable pulsation was observed in carotids and jugulars. The precordial dullness was increased.

During the next year the catamenia appeared. The symptoms became more pronounced. The patient was more nervous and impatient, and unable to study. She had taken iodine by the advice of another physician in the interval. On the whole, she was not much worse. The tumor was slightly larger, but the respiration continued unaffected. The patient is now in a Southern city, and growing worse. Iron has been of some benefit.

This disease was first described by Basedow, and subsequently by Graves and Trousseau. The most marked symptoms are prominence of the eyes and enlargement of the thyroid body. Arterial palpitation is generally noticed early. There is a cardiac souffle, prolonged into the great vessels. Precordial dullness may or may not be increased. The sight is not often affected. In the course of the disease we find progressive anæmia, anasarca, general cachexia, and death. The heart is generally enlarged. Increased vascularity of the choroid is found. The disease occurs most frequently in males from twenty to twenty-five years of age.

DR. MARCY mentioned the case of a book-keeper, aged twenty-four. He first noticed cardiac irregularity four years ago, and was seen by Dr. Marcy one year ago. Then the first cardiac sound was prolonged, the eyes were prominent, and the right lobe of the thyroid body was the most enlarged, showing marked pulsation. Pulse 100, rising under excitement. The treatment consisted of quinine and digitalis, with rest. The patient is now well enough to attend to business.

Dr. Hildreth saw a case several years ago in which no benefit was derived from iodide of potassium and cod-liver oil.

Dr. Sullivan had seen a case of recovery under iron and arsenic.

Dr. Willis had a case in which the respiration was spasmodically affected, about every fourth inspiration being accompanied by a kind of shriek.

Cystitis in a Nursing Woman. — **Dr. Sullivan** reported a case of easy labor with good recovery, followed six weeks later by dysuria and strangury, succeeded by a flow of pus from the bladder. The patient was treated for seven months by tonics and injections without benefit. Weaning was followed by relief, and the subsequent resumption of nursing by a return of the trouble. Another similar case recovered upon the removal of the child from the breast.

Arrested Development. — A case of this condition in a child was reported by **Dr. Townsend.** Two or three fingers of each hand were undeveloped, each terminating in a small tumor like a huckleberry. The right foot was well formed excepting the toes. The left leg was normal until, near the malleoli, it appeared as if a catgut had been twisted about the bone. The foot was a shapeless mass, with rudiments of toes, and was removed. The inner malleolus was wanting, but the fibula was so prolonged that it was thought advisable to remove the end by bone forceps.

Dr. Driver stated that he had delivered a woman of an anencephalous fœtus, the head as usual not dilating the os readily. The child lived some days.

Dr. G. C. Pierce, of Ashland, said that he had recently had a similar case. The deficient bone was supplied by copper-colored skin. The edges of the bones caused the mother much pain.

Dr. Hodgdon remarked that he had always found a large amount of liquor amnii in such cases, and that the labor was not difficult after the rupture of the membranes.

Dr. L. R. Morse some years ago had four such cases in four months. In all there was a large amount of liquor amnii. The labor was quick in three.

Mastitis in a New-Born Infant. — **Dr. McDonnell** reported a case of inflamed breasts in an infant two days after birth. Next day there was an oozing of serum from the breasts, followed by a bloody discharge from the vagina.

Dr. Townsend said he had seen hæmorrhage from the bowels and the vagina in a cyanotic infant, which, however, did well.

Dr. Holmes had seen two similar cases.

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"DEATH FROM ETHER."

We abridge the following statement from the *New York Herald* of November 22d. A man, fifty-four years of age, went to the homœopathic college in New York, on Saturuay the 20th inst. "He was complaining of pain in the left upper jaw extending to the head, with great nervous prostration. There were four openings in the jaw, all discharging fœtid pus. On introducing a probe, caries of the upper jaw was found, and the patient was advised to have the bone removed." "He was placed under the influence of ether and *laid on the table*" (the italics are ours). "A physician was constantly feeling the patient's pulse while the ether was being given." An "incision was made into the upper jaw, and four teeth extracted." The operator was "about to extend the incision when he noticed the face of the patient become blue. Artificial respiration and the galvanic battery were applied, but they were unavailing; he was dead."

The reputation of ether, in doses even of a pound or two, has been hitherto pretty good. It has been tried on patients with hearts variously fatty. It will be difficult to persuade us that two and one fourth ounces of this hitherto beneficent agent has proved so suddenly fatal, without any previous gradual diminution of the pulse. It should be conclusively shown that the patient died of nothing else. *This patient, so far as we can judge, died of asphyxia from blood in the trachea.* In the first place, after he was etherized, he was laid on his back. An "incision" was made in the jaw, and time enough elapsed to extract four teeth. Dead bone always makes the soft parts vascular. There was ample time for blood to fill the trachea. Until it is shown that there was no blood in the fauces and trachea this must stand as the cause of death. The autopsy is silent on this point. The suddenness and the lividity both belong to asphyxia and neither to etherization. In the Massachusetts General Hospital, operations on the mouth are usually done in the erect posture, with special attention to keeping the fauces clear of blood.

MEDICAL NOTES.

— A very remarkable case of ossification of muscles was lately presented before the New York Pathological Society by Dr. E. P. Gibney. The patient, still alive, was a girl of ten years, who some months ago suffered from diphtheria. The symptoms of ossification had been present for seven or eight months. The latissimus dorsi, scaleni, and erectes spinæ muscles were those affected, but the disease was, as is usual in these rare cases, progressive. The most remarkable case of this kind occurred in Dublin. The skeleton, now in the museum, shows a distorted and bony representation of many of the chief muscles of the body. The erectores spinæ, pectorals, gluteals, and latissimi dorsi were among the most affected.

— We are happy to announce that a new charity, the Hospital for Women, has been opened and is already in successful operation. In some respects it is similar to the New York State Woman's Hospital, and is designed only for the treatment of those diseases peculiar to women. The hospital is situated at 16 East Springfield Street, has accommodations for twenty beds, and was opened for the reception of patients on the second day of November. Eight beds are now occupied. The institution is supported by churches and by individual charity, governed by a board of trustees and the medical staff. Its objects are to give relief to some of the many poor women who crowd our dispensaries and public charities, and who require operative treatment which cannot be given them at those places; many will be benefited also who have not proper hygienic surroundings or who could not have the necessary nursing or care at their own homes. It is hoped, moreover, that this institution may be a field for the more careful clinical study of these cases. The hospital is to be considered fortunate in obtaining the services of the Episcopal Sisterhood of St. Margaret, whose noble work has been so well known in connection with the Children's Hospital.

The following is its list of officers: —

Board of Trustees: Benjamin E. Bates, President; Joseph W. Woods, Secretary; Edwin H. Sampson, Treasurer; Edwin F. Waters, Rev. E. E. Hale, Rev. Dr. Vinton, Rev. Phillips Brooks, Rev. Treadwell Waldon, Rev. Dr. A. R. Baker. Medical Staff: W. H. Baker, M. D., Visiting Surgeon. Consulting Board: D. H. Storer, M. D., W. W. Morland, M. D., A. D. Sinclair, M. D., J. P. Reynolds, M. D. And by Correspondence: J. Marion Sims, M. D., E. R. Peaslee, M. D., T. Addis Emmett, M. D., T. Gaillard Thomas, M. D.

Applications for admission to the hospital may be made to Dr. Baker at his office, 6 Beacon Street, every day, or at the hospital, Thursdays, at three P. M.

— We understand that renewed efforts will be made at the coming session of Congress to obtain the passage of the bill increasing the rank of surgeons in the army. The matter is sufficiently familiar to the profession to need no comment, for we all know how great is the merit of the medical corps of the army, how severe yet excellent their work, and how small the reward; but it is greatly to be desired that these facts should be made so evident that Congress cannot overlook the justice of the claim.

— An attempt to explain the emaciation of consumption is made by Edward Williams, M. D., in a paper published in the *Medical Press and Circular* of October 27, 1875. It has been noticed that when in phthisis the apex of the right lung is alone affected, loss of flesh is not observable. When emaciation occurs it appears to be due to the deficient supply of chyle to the venous system. When the left lung becomes the first affected, emaciation more speedily shows itself in consequence of the thoracic duct opening into the left subclavian vein and becoming more immediately subject to the mechanical pressure of the disorganized lung. The impeded passage of the blood through the right side of the heart causes engorgement of the descending jugulars and left subclavian vein, and the engorged veins, pressing on the outlet of the thoracic duct, also prevent the flow of chyle into the venous system. Hence the inference that the emaciation occurs in consequence of a sufficient supply of chyle not being able to find its way into the venous system on account of the mechanical obstruction referred to above.

— According to Dr. Knapp, says the *Medical Press and Circular*, the arsenic-eaters of Upper and Middle Styria have discovered that arsenical food has much to justify it, and that taken in reasonable quantities its poisonous effects are very slow. They say that it prevents illness, furthers their wish to look rosy and healthy, is a remedy against difficulty of breathing, and assists the digestion of indigestible food. A poacher told Dr. Knapp that he acquired courage by the habit. The appearance of the arsenic-eaters is healthy and robust; and the author thinks only robust persons can become accustomed to the practice. Some of them attain a great age. The dose is at first very small, and is gradually increased, the largest quantity eaten in his presence being fourteen grams (three and a half drachms). The intervals at which the arsenic is taken vary — every fortnight, every week, twice or three times a week. Arsenic was formerly, and perhaps is now, taken in this country to improve the complexion; and in some skin diseases it is prescribed in large doses and for long periods of time. On the other hand, we hear of persons being poisonously affected by infinitesimal doses, as in arsenic-poisoning from wall-papers. The difference is doubtless due to the different way in which the drug reaches the system. In poisoning from wall-papers it is taken directly into the blood from the lungs, and poisons passing into the blood by subcutaneous injection or by inhalation have a much more powerful effect than when absorbed through the digestive tract.

— *The Medical Times and Gazette* reports the treatment at Guy's Hospital of several cases of diseased joints by sulphuric acid. Three patients were thus treated, all of whom were suffering from advanced pulpy degeneration of the synovial membrane of a joint; and in one case a condyle of the femur was also necrosed. Four joints in the three patients were operated upon; in one the ankle-joint, in one the knee, and in one the knee and wrist-joints were the seat of disease. The mode of operating was simply to make one or more incisions into the joint, let out any flaky or puriform fluid which might be present, and then stuff strips of lint, soaked in one part of the sulphuric acid of the shops with two of water, into it. The parts were then covered with carded oakum and a bandage, and the limb was fixed on a splint. No great amount of pain, it is said, can be produced by the operation, for one of the patients seemed quite comfortable and without any sign of suffering when seen about half an hour after recovering consciousness from chloroform.

— A case in which injection of strychnine into the bladder for paralysis of that organ was attended with success is reported by W. E. Tarbell, M. D., of Kinkiang, China, in the *Medical Record* of November 13, 1875. The patient, after a difficult labor, was unable to pass her water, and for twenty days subsequent to delivery the catheter had to be employed twice a day. Strychnia and other remedies were administered by the mouth during this period, but failed to restore power to the bladder; at length Dr. Tarbell made a solution of strychnia of one grain in two ounces of water (six centigrams in six deciliters), of which he injected into the bladder one drachm (three and six tenths cu. centim.) in half an ounce (fifteen cu. centim.) of tepid water, three times a day. After the third injection a copious voluntary flow of urine came on, and the patient was no longer troubled with retention.

— The treatment of patent urachus is discussed in a paper by J. J. Charles, M. D., which is published in the *British Medical Journal* of October 16, 1875. The urachus extends from the apex of the bladder to the umbilicus. It retains the tubular character of the allantois up to about the thirtieth week of fœtal life, and its cavity is in great part obliterated a short period before birth, though to a variable extent. From this fact it is easy to understand, more especially in cases where the obliteration at birth is less complete than usual, that any obstacle to the flow of urine from the bladder may give rise to undue distention of that viscus, to the dilatation of the slender cavity in the urachus, and to the discharge of urine from the umbilicus. The most rational mode of treatment in such cases is to remove any obstruction that may exist to the flow of urine by the ordinary passage. In the cases of patent urachus on record the treatment has been directed solely to the contraction and closure of the aperture at the umbilicus by the actual cautery or by plastic operation; but such attempts have proved abortive. To Professor Redfern is to be ascribed the credit of recommending circumcision.

In a case reported by Dr. Charles of a boy about a year old, the umbilical cord fell off at the usual time, but urine was discharged ever afterward at the umbilicus. The urine was passed with difficulty by the urethra. No tumor was visible at the umbilicus, the prepuce was long, contracted, and adherent to the glans. Tincture of perchloride of iron had been applied to the umbilical aperture to produce contraction, but without avail. Dr. Charles then operated for the phymosis by slitting up the prepuce. After that very little urine came from the umbilicus, and when the patient was last seen there was scarcely any appearance of ulcer or opening of any kind.

— A case of deposition of the ova of a fly in the nasal fossæ is reported in the *Philadelphia Medical Times* of October 30, 1875, by Assistant Surgeon W. F. Buchanan, U. S. A. He was called to a woman aged eighty, who was experiencing terrible suffering. Her son stated that two nights previously a fly had got into her nose while she was sleeping, and that she now had worms in her nose. The constitutional disturbance was great, but no worms could be seen. Two days later there was great pain in the head, face, frontal and maxillary sinuses. The patient was delirious, her face was swollen, her eyes were closed by tumefaction, and there was a slight purulent discharge. Several maggots had appeared at the anterior nares, and one or two had been removed. Two days later the woman's general condition was much the same; meanwhile maggots had continued to be discharged, and an opening had been caused by them through the soft palate and on the bridge of the nose. The orifices were injected with a solution of carbolic acid. In a day or two the patient began to improve, and then to rapidly recover. A portion of the anterior part of the soft palate of the size of a silver quarter of a dollar sloughed out, but afterwards presented a healthy appearance, and seemed to be closing. There were in all about three hundred and twenty-five large maggots discharged.

— Recently at a meeting of the Medico-Chirurgical Society, as reported in the *Edinburgh Medical Journal* for September, 1875, Dr. G. W. Balfour gave an account of three patients who had been much benefited by the use of large quantities of raw onions, which had acted as a diuretic. The first case was that of a woman who had suffered from large white kidney and constriction of the mitral valve. Her abdomen and legs had been tapped several times, but after using the remedy given above she had been free from dropsy for two years, although still suffering from albuminuria. Of the other two, one suffered from cardiac disease, cirrhotic liver, and ascites; the other had ascites depending on tumor of the liver. In both these cases the remedy had been given with good results. Both had been previously tapped, and purgatives and diuretics alike failed to give relief. Finding that the fluid was steadily reaccumulating, the patient had recourse to onions. Under their use the amount of urine passed rose in a few days from ten ounces (three liters) to a hundred ounces (thirty-three liters).

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SURGICAL OPERATIONS IN THE MAINE GENERAL HOSPITAL.

[REPORTED BY E. E. HOLT, M. D.]

Hæmorrhoids. — J. E. K., aged sixty-eight, a railroad employé, was admitted August 28, 1875, with the ordinary history of piles; he had a pendulous mass, of the size of a man's fist, around the margin of the anus, which had begun to degenerate. He was unable to pass his urine, which was smoky and was made turbid by heat and nitric acid. Dr. Gerrish thought that there was more albumen present than could be accounted for in the blood, which probably came from the kidneys, bladder, and urethra; he also found pus and epithelium, the latter being renal. It was decided that operative measures would best relieve the hæmorrhoids and the irritation along the urinary organs.

September 1st. The bowels having been moved freely and the patient put under ether, Dr. Weeks dilated the sphincters and ligated the piles.

September 8th. The tied masses sloughed off. The urine was clearer. The bowels, which had been kept constipated by opium, were freely moved by warm-water injections and castor-oil.

September 25th. A dejection was accompanied by severe hæmorrhage, which was checked only by repeated enemata of dilute solution of sub-sulphate of iron. The fæcal discharges were now involuntary, and excessive purging occurred occasionally. The patient was able to pass a little urine twice, which is now free from blood and albumen. He took opium, nux vomica, quinine, and tincture of iron three times daily.

October 2d. The patient has gradually obtained perfect control of the bowels, and passes his urine freely. Discharged, well.

Cheiloplasty. — W. S. B., aged forty, was admitted August 23, 1875, with cancer of the lower lip, the disease having commenced six years ago. He has had it burnt out several times by "cancer doctors," so that now the four incisors are in view, and what is left of the lip is thickened and indurated. His father and two uncles were treated for cancers about the face.

August 27th. Sulphate of quinine (one grain) with tincture of the chloride of iron (fifteen drops) has been given three times daily and the bowels have been freely moved. The patient was etherized and Dr. Weeks, assisted by Professor Greene, who suggested this mode of operation, made an incision from each corner of the mouth down the whole length of the chin, including every part of the cancer and indurated tissue in a V-shaped space. This was removed and two horizontal incisions were made through the entire thickness of the cheek, outward from either corner of the mouth, for an inch. The flaps thus formed were dissected up from the jaw as far as the angle, so that they could easily be brought together in the median line; they were held in position by silver and silk sutures. The mucous membrane and skin of the lip thus apposed were stitched together by fine silk sutures. Two triangular pieces, the bases of which corresponded with the horizontal incisions made from the corners of the mouth, were removed from the cheeks above; the edges were brought together and held by silver and silk sutures, and the whole was dressed in dry cotton.

September 2d. No pain. The patient is very comfortable, and has taken beef-tea, milk, and egg-nog, readily, through a tube. The wound healed entirely by the first intention. The first suture was removed on the third day and all the rest before the fifth day.

September 14th. On the 3d, a severe erysipelatous inflammation began in the left cheek and thence spread upwards over the face and head, accompanied by high fever. This attack was subdued by appropriate treatment, principally by large and repeated doses of tincture of the chloride of iron, and the patient was discharged with a lip so perfect that at a short distance it appeared entirely natural.

It is believed that this mode of operation, originally proposed by Professor Greene in this class of cases, is far superior to any other, as there are no surfaces to heal by granulation, mucous membrane is supplied in its normal place, there is no tension of the parts, and the patient soon regains movement of the lip, with very little deformity.

Perineorraphy. — Mrs. J. H. A., aged fifty, was admitted September 20th, with complete rupture of the perinæum; she had only slight control of the bowels, and was subject to profuse metrorrhagia, in which the tampon had to be used to save her life. Her disability was caused by a prolonged labor thirteen years ago, in which instruments were used. She has had two children since that time, with precipitated labors.

September 21st. The bowels having been thoroughly moved by castor-oil, and ether having been administered, Dr. Weeks proceeded first to restore the sphincter muscle, by denuding the edges and bringing them together by silver sutures according to Sims's method, so thoroughly demonstrated and illustrated with practical results by Dr. Emmett. The second part of the operation consisted in vivifying the two lateral surfaces of the ruptured perinæum, and bringing them together by silver and silk sutures. The urine was drawn, the wound dressed with dry cotton, and the patient put to bed, morphia being administered hypodermically to quiet and relieve pain. The diet consisted of milk, beef-tea, and toast.

October 6th. Union of the wound by first intention was obtained; there was no suppuration except along the line of the sutures, the first of which was removed on the fourth day and all the rest before the sixth day after the operation. The bowels were kept constipated by opium till the fifteenth day, when they were freely moved by warm-water injections and castor-oil. The patient had perfect control of the sphincter muscles.

October 16th. Discharged, entirely well.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.

[FROM OUR SPECIAL CORRESPONDENT.]

Messrs. Editors, — The American Public Health Association is a sober, painstaking body of disinterested sanitarians, who for four days sit patiently listening, through the long hours of daylight and evening, to learned — often dry — discourses, and waste no time on late suppers, as so many of our medical associations do. It is difficult to divest one's self of the idea that this is really a medical convention, so prominent are the doctors in every department of it. It is therefore a matter of some disappointment to find them meeting together without eating together, after the approved fashion of the American Medical Association; but it may be that in this respect they wish to inculcate a new code of dietetic precepts, even if they suffer martyrdom in the act. What other profession or occupation than our own would calmly sit down to discuss plans for diminishing their pecuniary receipts, a result which the prevention of sickness by improved sanitary measures must assuredly accomplish sooner or later? Imagine a body of unselfish legal practitioners assembled to devise methods for elevating the moral tone of the community, so that legal advice would be no longer necessary! Solidity is a prominent characteristic of this association, but a solidity that must in time make a permanent impression for good. It has hardly a humorous phase in any form; the gentlest murmur of a smile was once or twice almost audible after some quaint expression in a paper devoted to some profound question of sanitary science, and the only laugh that agitated the auditors was elicited after the presentation of the paper by Mr. Jackson S. Schultz, of New York, on the utilization of animal and vegetable refuse. This gentleman spoke of the great expense incurred by New York city for a useless system of conveyance of its garbage and other refuse to the sea, hundreds of tons of valuable food for swine being weekly towed out to the ocean and cast overboard. It was proposed by the writer that an island in Long Island Sound should be chosen as the place of deposit of this valuable mass of refuse matter from all the hotels and dwelling-houses of New York, and that as many hogs should be placed there as were necessary to devour it. Fat dead animals (one hundred horses die weekly in New York) should also be converted into nutritious food for the hogs. Dr. Hunt, of New Jersey, said he had no doubt that hogs would eat city garbage and dead horses, but who would eat the hogs? It was like drinking the milk of swill-fed cows. Mr. Schultz said that if the doctor was eating pork at all, he was now eating that sort; to which the latter replied that he would go then to Gehenna, turn Jew, and eat no hog at all. Who knows whether in good time the Sound lines to Boston may not hold out as an inducement for the patronage of wavering tourists the fact that they will pass *en route* (root?) this fragrant isle of the sea, at a time, perhaps, when in nautical phraseology a sow-west wind may be wafted from it?

A notable fact at this meeting was the absence of members of the boards of health of some of the larger cities. The worthy secretary of the association fitly represents the health interests of New York, even if he should be their solitary champion on such an occasion. But what were Philadelphia and Washington doing, while these measures for sanitary improvement were being discussed at Baltimore? The health officer of the first-named city, who is chairman of an active political organization, could have scarcely recovered from the excessive labor of folding election tickets during the previous week, and the board of health was too much agitated on the subject of keeping its proceedings from the public eye, — a conclusion finally resolved upon by this model sanitary board, — to take part in matters of such vital moment as those in which the sanitarians of the whole country were participating in a sister city. Besides, did not this body last year scrupulously abstain from any part in the cordial welcome which all other lovers of human progress extended, in spirit if not in person, to the association at its meeting in Philadelphia? Of the Washington board, we noticed Dr. Bliss, of cundurango memory, present at the first day's session, we believe, unofficially. Ought not these boards to be foremost in every such sanitary movement, or at least modestly to seek admission for their representative men into the ranks of an association all of whose objects are in the highest degree worthy of their study and attention? It was expected that Philadelphia would be chosen for the next place of meeting, the date of which should be fixed at some time, say September, during the holding of the centennial exposition; but Boston was selected, and the second week of November as the date.

There was general unanimity in the proceedings, with little or no clashing; but then, there was so little discussion indulged in that clashing was almost an impossibility, except in the written expression of views. Most of the speakers advocated proper systems of drainage and sewerage as great desiderata, but one gentleman argued against deep-soil drainage, inasmuch as it had been in some instances the exciting cause of epidemics, by bringing to the surface poisons contained in the soil. He doubtless believed with the Scripture, that "trouble springeth out of the ground," a quotation which lost its freshness after being indulged in by two or three of the writers on sewerage. The rules of the association should at all meetings be strictly enforced, and no paper should be allowed to occupy the attention of this body for more than thirty minutes, or preferably twenty. Some of the papers presented were not strictly of a class to be read at a meeting of a sanitary association; such should hereafter be carefully sifted from the rest by a process of exclusion practiced before the time of meeting. Nothing of merely local interest should be allowed a place on the programme, unless its applications admitted of indefinite extension.

Of the good results accomplished by this association, much must be of a silent and for a while unseen nature, penetrating into the plans of the architect, the builder, and the administrators of the interests of cities. General Vielé was right in saying that there is not one man in ten thousand who can tell whether or not the soil-pipe of his residence has a trap connecting it with the street sewer, and that there is not one instance in a thousand where such a trap is in existence, and that no trap or other contrivance has yet been invented to prevent the gases of an unventilated sewer from penetrating into the houses along its route. Can such facts as these be published so universally without awakening a lively sense of responsibility somewhere? Can the authorities lend a deaf ear to all the questions of faulty hygiene which are associated with school life and the training of children? Will not some practical improvement result from the agitation of theories — even if they be only theories — of ventilation? Many of the questions discussed were entirely out of the usual range of medical practice and reflection. It is with the view of hereafter exciting an interesting discussion on such extra-professional topics that there should be urged upon this association the propriety of seizing upon every available opportunity to add civil engineers and men of good, sound, practical business ideas to their list of membership. Their absence may have been the cause of the silence that almost invariably reigned after the reading of a paper, for the medical men were afraid to handle topics that were somewhat beyond their powers of treatment, though not by any means beyond their comprehension. It has not been my object to refer to the individual merits of the papers presented, which have been so lavishly spread before the public, but rather to point out some of the methods in which the interests of the association can be enhanced, and its practical usefulness extended. Its future must be prosperous and its kindly influences wide-spreading, for it is concerned in the perpetuation of nature's first law, self-preservation.

BALTIMORE, *November* 13, 1875.

WEEKLY BULLETIN OF PREVALENT DISEASES.

THE following is a bulletin of the diseases prevalent in Massachusetts during the week ending November 20, 1875, compiled under the authority of the State Board of Health from the returns of physicians representing all sections of the State: —

The summary for each section is as follows: —

Berkshire: Bronchitis, influenza, pneumonia, rheumatism.

Valley: Bronchitis, influenza, typhoid fever, pneumonia. South Hadley Falls reports a "severe epidemic of measles."

Midland: Influenza, bronchitis, rheumatism, typhoid fever. Spencer reports "scarlatina unusually malignant."

Northeastern: Bronchitis, scarlatina, typhoid fever. Diphtheria has increased. Lexington reports an "epidemic of measles."

Metropolitan: Bronchitis, pneumonia, diphtheria, scarlatina, rheumatism. Less diphtheria reported.

Southeastern: Typhoid fever, bronchitis, influenza. Not much sickness reported.

In the State at large, bronchitis, influenza, typhoid fever, rheumatism, pneumonia, diphtheria, and scarlatina comprise the prevailing diseases. Bronchitis and influenza are everywhere present; diphtheria and scarlatina are most prevalent in and around Boston; typhoid fever is reported mainly by the western sections. F. W. DRAPER, M. D., Registrar.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING NOV. 13, 1875.

	Estimated Population.	Total Mortality for the Week.	Annual Death-Rate per 1000 during Week.
New York	1,060,000	486	24
Philadelphia	800,000	286	19
Brooklyn	500,000		
Chicago	400,000	128	17
Boston	342,000	169	26
Cincinnati	260,000		
Providence	100,700	52	26
Worcester	50,000	19	20
Lowell	50,000	16	17
Cambridge . . .	48,000	18	19
Fall River	45,000	22	25
Lawrence	35,000	9	13
Lynn	33,000	14	22
Springfield	31,000	10	17
Salem	26,000	16	32

Normal Death-Rate, 17 per 1000.

Books and Pamphlets Received. — Transactions of the Medical Society of the State of Pennsylvania, 1875.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. LVIII. 1875. (In exchange.)

On the Treatment of Venereal Disease by Salicylic Acid. By George Halsted Boyland, M. D. (Extracted from the American Journal of the Medical Sciences.)

Outlines of Practical Histology. By William Rutherford, M. D., F. R. S. E. London: T. and A. Churchill; Philadelphia: Lindsay and Blakiston. 1875. Pages 72. (For sale by James Campbell).

Addison's Disease. The Croonian Lectures for 1875. By Edward Headlam Greenough, M. D., F. R. S. Philadelphia: Lindsay and Blakiston. 1875. Pages 212. (For sale by James Campbell.)

Review of Professor Palmer's Statement respecting Homœopathy in the University. (Reprinted from the Detroit Review of Medicine, October, 1875.)

Homœopathy in Michigan University. (Reprinted from the same journal of September.)

Report of the Board of Health of the City and Port of Philadelphia to the Mayor for the year 1874. Philadelphia. 1875.

Are Carbolic Acid Disinfections useful in Yellow Fever? By Dr. Y. R. LeMonnier. From the New Orleans Medical and Surgical Journal, November, 1875.

Opium Eating. An Autobiographical Sketch. By an Habituate. Philadelphia: Claxton, Remsen, and Haffelfinger. 1876.

The Student's Guide to Human Osteology. By W. W. Wagstaffe, F. R. C. S., Assistant Surgeon to and Lecturer on Anatomy at St. Thomas's Hospital. Philadelphia: Lindsay and Blakiston. 1875. (For sale by A. Williams & Co.)

Phthisis. A Series of Clinical Lectures. By Austin Flint, M. D. Philadelphia: Henry C. Lea. 1875. (For sale by A. Williams & Co.)

Suffolk District Medical Society. — The regular meeting will be held on Saturday next, at 7.30 P. M. Papers will be read as follows: —

Dr. E. Cutter, Nascent Chloride of Ammonium in Bronchitis.

Dr. F. I. Knight, Systolic Murmurs at the Apex of the Heart.

Dr. E. Chenery, Experience in the Treatment of One Hundred and Fifty Cases of Diphtheria.

Dr. E. Cutter will exhibit a battery for electrolysis.